

Table 1. Distinguishing characters between *Casearia espiritosantensis* R. Marquete & Mansano and its most morphologically similar species, *C. decandra* Jacq.

	<i>C. espiritosantensis</i>	<i>C. decandra</i>
Habit	shrub, ca. 3 m high	tree, 8–18 m high
Stipules	2.5–3 × ca. 0.25 mm, glands at the base of the adaxial surface	ca. 7 × 0.5 mm, glands at the margins
Petiole	hirsute	puberulent
Leaf blade	3–5.2 × 1.6–2.2 cm	5–7(–9) × 2–4.1 cm
Leaf shape	lanceolate or elliptic-lanceolate	lanceolate to oblong-lanceolate
Leaf abaxial surface	sparsely villose	rarely pubescent to glabrescent on the veins
Leaf base	acute	cuneate to slightly asymmetrical
Leaf margin	sparsely serrate	serrate to crenate
Pedicel	hirsute	tomentose
Flower buds	oblong-lanceolate	obovate-oblong to oblong-ovate
Sepals	ovate	oblong-lanceolate
Stamen filaments	sparsely pilose at the base	tomentose at the base
Anthers	oblong, minute gland at apex	globose, without gland at apex
Disk lobes	oblong	oblong-clavate
Ovary	ovate to lanceolate-ovate, sparsely hirsute	ovate to oblong-ovate, villose
Stigmas	clavate	capitate

entire, glabrous, the stigma white, clavate, entire, hirsute.

Distribution and habitat. *Casearia espiritosantensis* occurs in the Atlantic rainforest in Brazil, at altitudes from 600 to 700 m.

IUCN Red List category. Although the new species was found in a protected area, it should be considered Critically Endangered (CR) according to IUCN Red List criteria (2001) because of its narrow geographical distribution and the small number of herbarium specimens that have been located.

Etymology. The specific epithet *espiritosantensis* refers to the state of Espírito Santo, Brazil, where the species is endemic.

Relationships. *Casearia espiritosantensis* is similar to *C. decandra* Jacq. by its fasciculate inflorescences, leaf shape, and number of sepals. It differs from *C. decandra* by being a shrub (vs. tree) and having smaller stipules that have glands at the anther apex (lacking in *C. decandra*), a hirsute ovary (vs. villose in *C. decandra*), and clavate stigmas (vs. capitate in *C. decandra*). Further morphological comparison of these two species can be found in Table 1. The new species is endemic to the state of Espírito Santo, Brazil, while *C. decandra* has a wide distribution in the Neotropics.

In Brazil, *C. decandra* occurs from north to south in different habitats (Marquete, 2001).

Paratype. BRAZIL. **Espírito Santo:** Castelo, Parque Estadual do Forno Grande, L. Kollman & R. L. Kollman 8937 (MBML, RB).

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A New Variety of *Rungia linifolia* (Acanthaceae) from the Western Ghats of Karnataka, India

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ABSTRACT. *Rungia linifolia* Nees var. *saldanhae* Mascar. & Janarth. (Acanthaceae), a new variety from Kottigehara in Charmadi Ghat, Karnataka State (Western Ghats), is described and illustrated. The new variety is very similar to the typical variety *R. linifolia* var. *linifolia* in its filiform branches, inwardly curved inflorescence axis, secund, four-ranked spikes with two flowerless bracts and two flowered bracts, lanceolate bracteoles with scarious margins, and superposed anther lobes with the lower one spurred. The new variety differs in its larger size, pubescent stems, ciliate leaf margin, elliptic-lanceolate bracts, and the compound, verrucose testa of the seed.

Key words: Acanthaceae, India, IUCN Red List, *Rungia*, Western Ghats.

The genus *Rungia* Nees (Acanthaceae) is represented by about 50 species in the tropics (Mabberley, 1997). In India it is represented by 13 species (Santapau & Henry, 1973), of which four species are endemic to the Western Ghats. *Rungia linifolia* Nees is endemic to the northern and central Western Ghats and is considered rare and threatened (Ahmedullah & Nayar, 1986). During the floristic study of endemic Acanthaceae from the northern and central Western Ghats, an interesting specimen of *R. linifolia* was collected from Kottigehara in Charmadi Ghat, Karnataka State. Critical examination of the collected specimen in comparison with specimens in various herbaria shows that *R. linifolia* consists of two distinct entities. Hence, the collection described here represents a new variety of *R. linifolia*.

1. *Rungia linifolia* Nees, Pl. Asiat. Rar. (Wallich), vol. 3: 110. 1832. TYPE: India. s. loc., s.d., *B. Heyne 2447* (holotype, CAL).

Small herb; stem slender, erect, 4–18 cm, obtusely quadrangular, scabrous, filiform. Leaves with the petioles 1–2 mm; lamina elliptic-lanceolate, 4–20 × 1–8 mm, apex acute, margins sparsely ciliate, coriaceous, glabrous or minutely scabrid; secondary veins in 2 to 4 pairs. Inflorescences as spikes, 0.5–5 cm, filiform, curved inward; bracts ovate-elliptic, ca.

3.5 mm, apex mucronate-cuspidate, margins scarious, ciliate, glandular-pubescent externally, sparsely glandular-pubescent internally; floral bract with apex short, mucronate-cuspidate; bracteoles 2 per flower, lanceolate, ca. 3.5 mm, apex acuminate, margins narrowly scarious, ciliate. Flowers with the corolla 5–7 mm, pale purplish white with transverse purple stripes on lower lip; ovary oblong-elliptic, sparsely pubescent. Capsule elliptic-obovate, 2–3 × ca. 1 mm, tetragonous; seeds 4 per capsule, orbicular-oblong, ca. 1 × 1 mm, light brown, seed testa verrucose.

Specimens examined. INDIA. **Karnataka:** Uttara Kan-
nada Distr., Vincholi riverbanks, *W. A. Talbot 937* (BSI);
Gersoppa Falls, *Hall & McCann 34142* (BLAT); Jog Falls, *H. Santapau 18531* (BLAT), *G. S. Puri 2070* (BSI); Gund Range,
Dandeli, *K. R. Keshavamurthy & S. B. Mohanan KFP6043*
(JCB), *KFP6048* (JCB); Dandeli–Gund Rd., *K. P. Sreenath & S. R. Ramesh KFP10831* (JCB); betw. Ulvi & Dandeli near
Kaner, *M. E. Mascarenhas & M. K. Janarthanam 381* (Goa Univ. Herb.).

1a. *Rungia linifolia* var. *linifolia*.

1b. *Rungia linifolia* var. *saldanhae* Mascar. & Janarth., var. nov. TYPE: India. Karnataka: Chikmagalur Distr., Kottigehara, 21 Feb. 2006, *M. E. Mascarenhas & M. K. Janarthanam 205* (holotype, CAL; isotypes, BSI, MO). Figure 1.

Haec varietas a varietate typica statura majore, caulibus pubescentibus, foliis margine ciliatis, bracteis elliptico-lanceolatis apice acuminato et testa composita differt.

Herb; stems slender, erect, to 30 cm, quadrangular, pubescent, branches dichotomous, filiform. Leaves opposite; petioles 5–7 mm, obscure due to decurrent leaf bases; lamina elliptic to linear-lanceolate, 2.5–4.5 × 0.5–1 cm, tapering at both ends, apex acuminate, margin entire, slightly revolute, ciliate, membranous, pubescent, more so on nerves on abaxial surface, cystoliths on abaxial surface; principal veins prominent, raised on both sides, with secondary veins in 3 to 5 pairs. Inflorescences as axillary or terminal spikes, 1.5–2.5 cm, secund, 4-ranked; peduncles to 4.5 cm, filiform, curved inward, glandular-pubescent; bracts at the base of inflorescence axis reduced, similar to

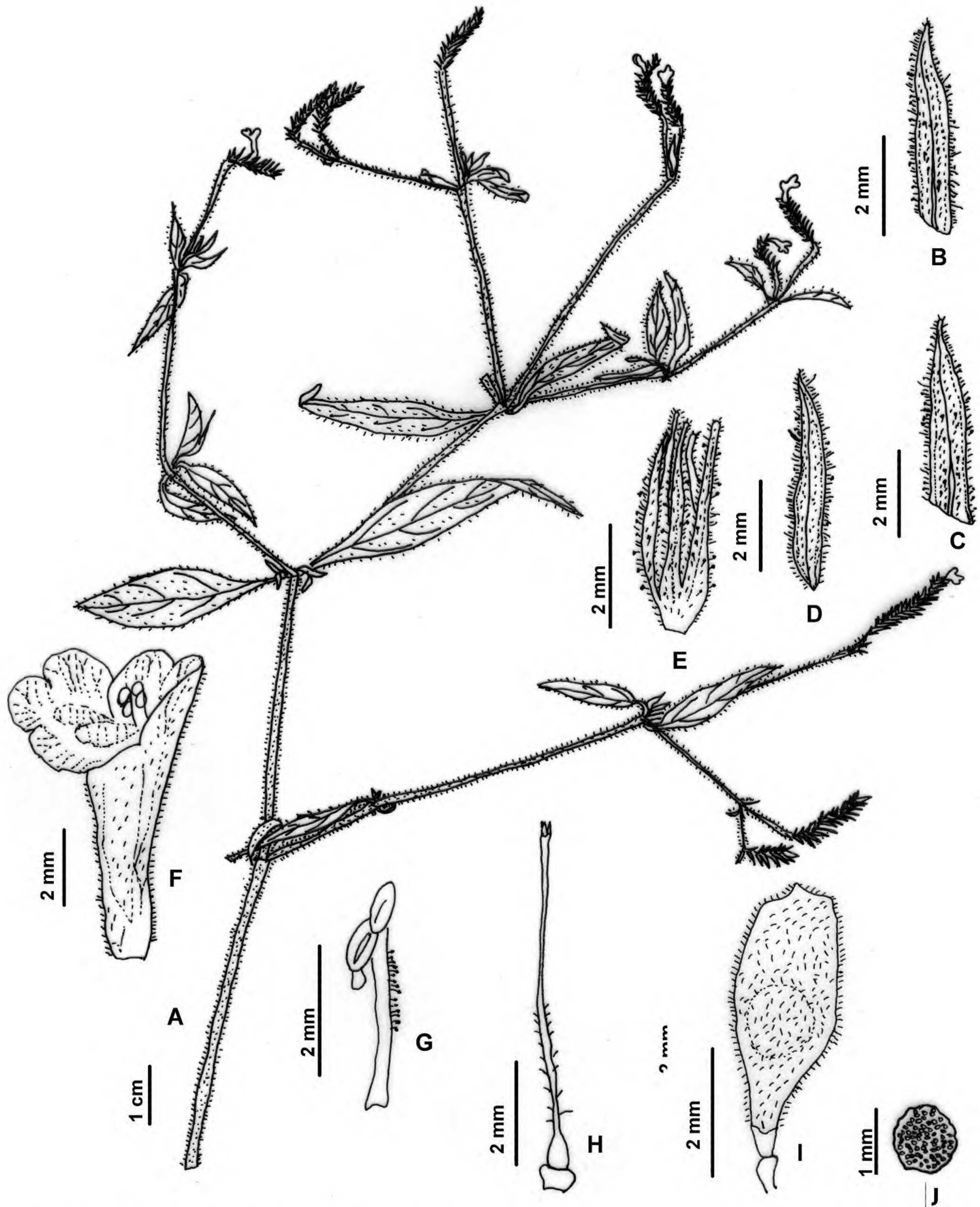


Figure 1. *Rungia linifolia* var. *saldanhae* Mascar. & Janarth. —A. Habit. —B. Sterile bract. —C. Floral bract. —D. Bracteole. —E. Calyx. —F. Corolla. —G. Stamen. —H. Gynoecium. —I. Capsule. —J. Seed. Drawn from the holotype *M. E. Mascarenhas & M. K. Janarthanam* 205 (CAL).

leaves; bracts elliptic-lanceolate, ca. 5 mm, apex acuminate, margin entire, scarious, ciliate, glandular-pubescent externally, sparsely glandular-pubescent internally, bract midrib prominent, the floral and sterile bracts similar; bracteoles 2 per flower, lanceolate, ca. 3 mm, apex acuminate, margin scarious, ciliate, glandular-pubescent externally, glabrous or nearly so internally, bracteole midrib prominent,

pubescent. Flowers with the calyx ca. 3.5 mm, divided almost to the base, segments unequal, linear-lanceolate, glandular-pubescent externally; corolla ca. 9 mm, pinkish white with pink stripes on lower lip, distinctly 2-lipped, pubescent externally, sparsely hairy internally; tube ca. 4 mm, cylindric; upper portion ca. 5 mm, ventricose, distinctly bi-lipped; upper lip 2-lobed, lower lip 3-lobed, lobes obtuse, the middle one larger;

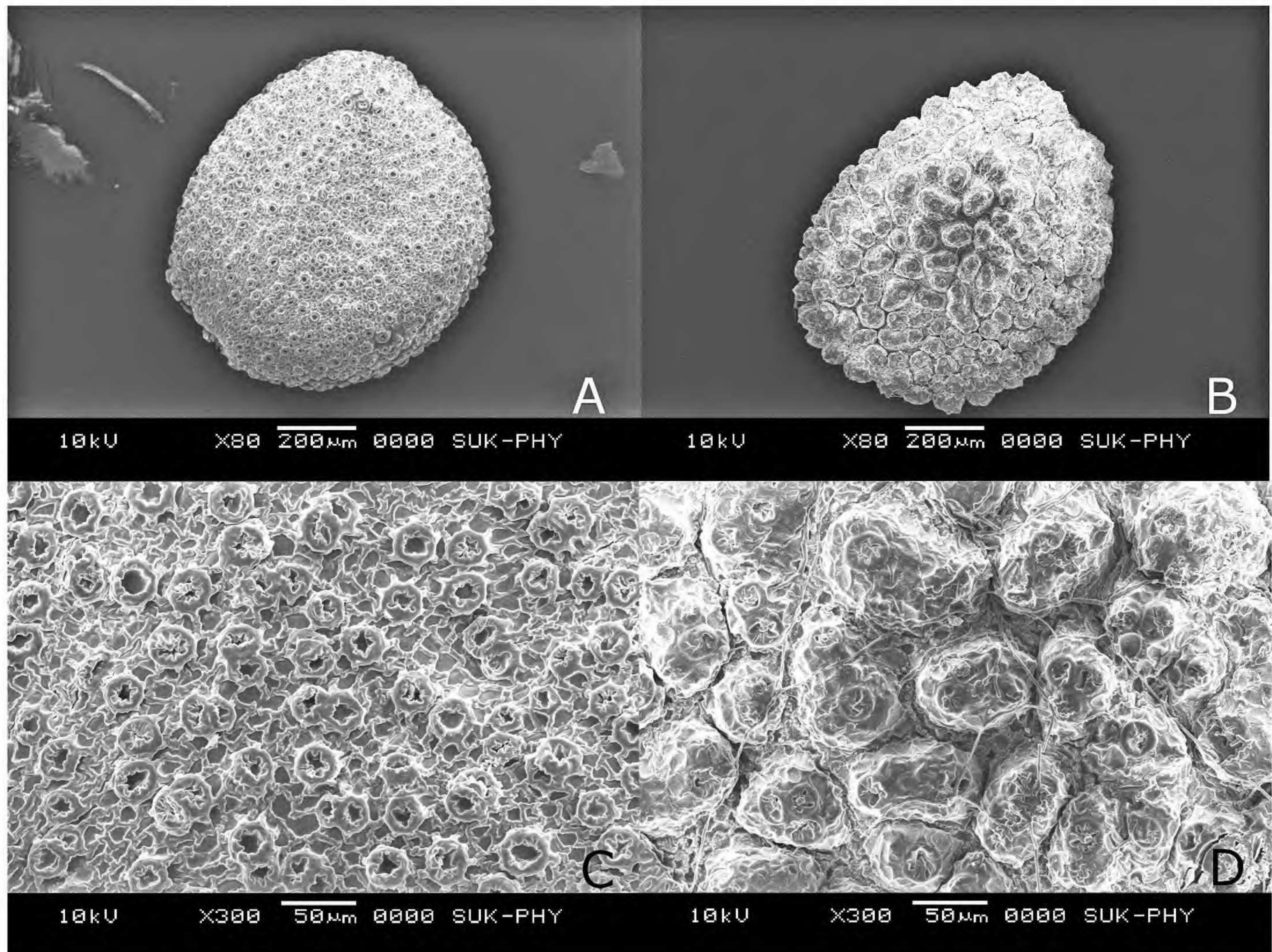


Figure 2. SEM images of *Rungia linifolia* seeds. A, C. *Rungia linifolia* var. *linifolia* (M. E. Mascarenhas & M. K. Janarthanam 381, Goa Univ. Herb.). B, D. *Rungia linifolia* var. *saldanhae* (M. E. Mascarenhas & M. K. Janarthanam 205, CAL). —A, B. Entire seeds. —C, D. Magnified view.

stamens 2; filaments flattened, ca. 2.5 mm, glandular on outer margins at distal half; anthers bitheous; anther lobes ca. 0.75 mm, oblong, superposed, with a spur at the base of the lower anther lobe; disc cupular; ovary ovoid; ovules 4; style sparsely pubescent at base; stigma bifid. Capsule obovate, 3.5–4.5 mm, stipitate, apex mucronulate, pubescent all over; seeds 4 per capsule, orbicular-oblong, ca. 1 × 1 mm, brown, seed testa compound verrucose.

Note. Morphological measurements were based on material preserved in formalin–acetic acid–alcohol (FAA) as well as from herbarium collections.

Distribution and habitat. *Rungia linifolia* var. *saldanhae* has been collected from Chikmagalur and Hassan districts in Karnataka State. The new variety was found growing in a small patch along the roadside in shaded and moist conditions between the communities of Kottigehara and Jenukallu, a locality in the upper portion of the Western Ghats. Earlier collections of *R. linifolia* var. *saldanhae* considered as paratypes here were reported to be

undergrowth along forest paths and streams of moist deciduous forests. In contrast, the typical variety occurs in dried riverbeds among rock crevices and in exposed conditions.

IUCN Red List category. The conservation status of *Rungia linifolia* var. *saldanhae* is assessed as Endangered (EN B2ab[iii,iv]) according to IUCN Red List criteria (2001) because its area of occupancy is estimated to be less than 500 square kilometers and it is known to exist at no more than five localities. The authors were unable to locate any populations in previously reported localities for the paratypes, thus indicating the taxon's decline in distributional area and number of locations. The present type locality is projected as very fragile, as any road-widening activity will threaten its habitat and further endanger its existence.

Etymology. The epithet of the new variety honors the late Fr. Cecil J. Saldanha, S.J., who has contributed immensely to the taxonomy of this region.